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Effect of intravenous lignocaine infusion on bispectral index during spinal anaesthesia for caesarean section: A prospective randomised double-blind study

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Abstract

Background and Aims: Systemic lignocaine has been shown to have sedative effects. We designed this randomised-double-blind, placebo-controlled study to evaluate the effect of intravenous lignocaine on the bispectral index (BIS) during caesarean section under spinal anaesthesia. Methods: 80 patients scheduled for elective caesarean section under spinal anaesthesia were randomly allocated to 2 study groups. Group L received intravenous 1.5 mg/kg of lignocaine bolus, 15 minutes before spinal anaesthesia followed by an intravenous infusion 1.5 mg/kg/h for 60 minutes intravenously. The patients in the control group (C group) were given 0.9% sodium chloride in a double-blind fashion. Spinal anaesthesia was performed with 10 mg of 0.5% bupivacaine. The changes of Sao2, BIS and hemodynamic variables during caesarean section, Apgar score of neonate and the incidence of adverse effects were recorded. Results: BIS values were lower in the L group compared to C group ($P \leq 0.001$). Comparison of mean arterial pressure (MAP) changes during spinal anaesthesia and surgery reveal statistically significant difference between two groups through repeated measure analysis ($P \leq 0.001$), but comparision of heart rate (HR) changes during spinal anaesthesia and surgery failed to reveal any statistically significant difference between two groups. ($P = 0.261$). The Apgar scores did not reveal a significant difference between the two groups at first and five minutes after delivery ($P = 0.99$). Conclusion: Intravenous lignocaine infusion given with spinal anaesthesia in women undergoing elective caesarean delivery providing lower BIS values without respiratory depression, in the absence of foetal compromise.

keywords

Bispectral index monitor; caesarean section; intravenous lignocaine; spinal anaesthesia